

**ROCKY FLATS PLANT
EMD OPERATING
PROCEDURES MANUAL**

Manual No.: 5-21000-OPS-FO
Procedure No.: Table of Contents, Rev 50
Page: 1 of 4
Effective Date: 06/29/93
Organization: Environmental Management

THIS IS ONE VOLUME OF A SIX VOLUME SET WHICH INCLUDES:

VOLUME I: FIELD OPERATIONS (FO)
VOLUME II: GROUNDWATER (GW)
VOLUME III: GEOTECHNICAL (GT)
VOLUME IV: SURFACE WATER (SW)
VOLUME V: ECOLOGY (EE)
VOLUME VI: AIR (AP)

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FO.02	Transmittal of Field QA Records	3	05/22/92
DCN 93.01	Working Base Maps	3	05/12/93
FO.03	General Equipment Decontamination	2	05/12/92
DCN 92.01	EXPIRED (Clarification of Decontamination)	2	Expired
DCN 92.02	Update to Clarification of Decontamination	2	12/12/92
DCN 93.01	CPT Rods	2	02/16/93
FO.04	Heavy Equipment Decontamination	2	05/12/92
DCN 92.01	Expired	1	Expired
DCN 92.02	Expired	1	Expired
DCN 92.03	Consistency Change	1	09/18/92
DCN 92.04	Update to Clarification of Decontamination	2	12/17/92
FO.05	Handling of Purge and Development Water	2	05/12/92
FO.06	Handling of Personal Protective Equipment	2	05/12/92
DCN 92.01	Monitoring Change	2	09/18/92
DCN 93.01	Plastic Bagging Modification	2	02/17/93

ADMIN RECORD

**DOCUMENT CLASSIFICATION REVIEW WAIVER
PER R.B. HOFFMAN, CLASSIFICATION OFFICE
JUNE 11, 1991**

A-SW-001017

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Procedure No.	Title	Rev. No.	Effective Date
FO.07	Handling of Decontamination Water and Wash Water	2	05/12/92
DCN 92.01	Consistency Change	2	09/18/92
FO.08	Handling of Drilling Fluids and Cuttings	2	05/12/92
DCN 92.04	EXPIRED (Clarification of Drill Cuttings)	2	Expired
DCN 92.05	EXPIRED (Handling of Drilling Fluids and Cuttings)	2	Expired
DCN 92.06	Clarification of Responsibility	2	09/09/92
DCN 92.07	Elimination of Drilling Requirements on Earthen Dams	2	09/10/92
DCN 92.08	Consistency Change	2	09/18/92
DCN 92.09	Clarification of Augering Technique for OU-6	2	10/28/92
DCN 92.10	Improve Tracking of Samples	2	12/07/92
•DCN 93.01	Better Consistency of Drum Handling	2	06/29/93
FO.09	Handling of Residual Samples	2	05/12/92
FO.10	Receiving, Labeling, and Handling Environmental Materials Containers	2	05/12/92
DCN 92.03	EXPIRED (Replaced by DCN 93.01 dated 2/10/93)	2	Expired
DCN 92.04	EXPIRED (Decrease in Weekly Inspections) of Gray Drums)	3	Expired
DCN 92.05	Requirement Reduction	2	09/16/92
DCN 92.06	Improve Accountability	2	10/15/92
DCN 92.07	Expired	2	Expired
DCN 92.08	Drum Log F or M Change	2	12/03/92
DCN 93.01	Clarification on Drums (REPLACES DCN 92.03)	2	02/10/93
DCN 93.02	Renewal (DCN 92.07)	2	03/17/93
DCN 93.03	Number of Drums per Pallet	2	05/11/93
DCN 93.04	Sample to Drum Traceability	2	06/23/93
•DCN 93.05	Drum Labeling Change	2	06/29/93
•DCN 93.06	Drum Sample Numbers	2	06/29/93
FO.11	Field Communications	2	05/12/92
FO.12	Decontamination Facility Operations	2	05/12/92
DCN 93.01	Tank Inspection Log	2	04/13/93

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FO.13	Containerization, Preserving, Handling and Shipping of Soil and Water Samples	2	05/12/92
DCN 92.01	Chain of Custody	2	07/27/92
DCN 92.02	Improve Tracking of Samples	2	12/08/92
DCN 93.01	Chain of Custody Record	2	02/10/93
DCN 93.02	Air Bill COC	2	05/18/93
FO.14	Field Data Management	2	05/12/92
DCN 92.01	EXPIRED (Update Bottle Codes and Lab Codes to Current Status)	2	Expired
DCN 92.02	Clarification of Biological Locations (07/08/92- Extended)	2	11/20/92
DCN 92.03	Changes in Procedures (07/08/92 - Extended)	2	11/20/92
DCN 92.04	Expired	2	Expired
DCN 92.05	Update QA/QC Code List	2	09/28/92
DCN 92.06	Clarify Description	2	09/28/92
DCN 92.07	Update Bottle Code List	2	09/28/92
DCN 92.08	Add Sub-Contractor Abbreviations	2	10/14/92
DCN 92.09	Major Form Revision	2	11/03/92
DCN 92.10	Elimination of Non-Required Section	2	11/10/92
DCN 92.11	Update Bottle Code & Lab Codes to Current Status	2	12/09/92
DCN 93.01	New Codes	2	01/15/93
DCN 93.02	New Samplers and New Media	2	01/15/93
DCN 93.03	Field Data for RFEDS	2	02/10/93
DCN 93.04	RFEDS Back-up	2	03/18/93
FO.15	Photoionization Detectors (PIDs) and Flame Ionization Detectors (FIDs)	2	05/12/92
FO.16	Field Radiological Measurements	2	05/12/92
DCN 92.04	EXPIRED (Seismic Lines)	1	Expired
DCN 92.05	Addition of HPGe	2	11/24/92
DCN 93.01	FIDLER Surveys	2	01/15/93
•DCN 93.02	LUDLUM/FIDLER Guidance	2	06/29/93
FO.17	Determining Out-Of-Specification Analytical Results for Environmental Samples		To Be Added

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<u>Procedure No.</u>	<u>Title</u>	<u>Rev. No.</u>	<u>Effective Date</u>
FO.18	Environmental Sample Radioactivity Content Screening	1	05/12/92
DCN 93.01	Clarification of Procedure	1	01/11/93
FO.19	Base Laboratory Work	2	05/12/92

ENVIRONMENTAL MANAGEMENT
DOCUMENT CHANGE NOTICE (DCN)

This is a RED Stamp

DOCUMENT NUMBER Procedure No. 5-21000-OPS-FO.16 Rev. 2

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Title Field Radiological Measurements	Date <u>6-29-93</u> May 12, 1993 <i>6/8/93</i>	DCN Number 5-21000-OPS-FO.16 REV. 2 93-93.02 <u>SLRD</u>
Expires <u>Upon Incorporation</u> <i>6/8/93</i> Procedure Revision Required <input checked="" type="checkbox"/> YES <input checked="" type="checkbox"/> NO <i>6/8/93</i>		
Scope Limitation: <u>None</u>		

Item Number	Page	Step or Paragraph	Changes (Use DCN CONTINUATION SHEET for Additional Space)
(1)	7 of 16	Section 6.2.1.1 4th Para	Add the following new line to the end of the paragraph... Refer to the Environmental Management Radiological Guidelines (EMRG) 6.1, Performance Tests and Operational Checks for the Ludlum Model 12-1A and Model 31 Survey Instruments, for more information.
(2)	7 of 16 <u>9</u> <i>6/8/93</i>	Section 6.2.1.3' (new) <i>6/8/93</i>	<p>Insert after Section 6.2.1.3:</p> <p>6.2.1.4 Monitoring with a Ludlum Model 31 <i>GM-# 6/4/93</i></p> <p>The Ludlum Model 31 count rate meter with a 440 pancake probe will be used as described in this subsection to monitor environmental material, samples, and equipment. Direct surface monitoring with a Ludlum Model 31 is a method of determining the presence and extent of beta/gamma radiological contamination. However, this method will not distinguish between fixed and removable beta/gamma radiological contamination.</p> <p>The preferable method of using the Ludlum Model 31 to monitor for surface contamination is to make slow sweeping movements over the surface of the object being screened. This is done by first establishing a background reading while holding the instrument 15 feet from the item being screened, then placing the probe within one-half inch of the surface and moving the probe no faster than 2 inches per second. If counts are detected on the surface, the probe is held over this area for at least 5 seconds and the counts are verified. <i>6-9-93</i></p> <p>Monitoring results greater than 5000 dpm/100cm² not as indicated by the Ludlum 31 will be considered indicative of the presence of radiological contamination on the surface. Net values are the subtraction of the background reading from the Ludlum Model 31 direct reading. <i>6/4/93</i> Refer to Environmental Management Radiological Guidelines (EMRGs) 2.2, Performance of Surface Contamination Surveys, and EMRG 6.1, Performance Test and Operational Checks for Ludlum Model 12-1A, and Model 31 Survey Instruments, for more information.</p>

Justification (Reason for change - Provide numbers to reference corresponding items above.)

This SOP did not provide guidance for use of the Ludlum Model 31 or the Bicon Analyst FIDLER.

Concurrence	Organization	Req	Date	Concurrence	Organization	Req	Date
<i>[Signature]</i>	QAPM	X	<u>5/28/93</u>	<i>[Signature]</i>	User	Y	<u>6/7/93</u>
	EOM <i>6/25/93</i>			<i>[Signature]</i>	USER	Y	<u>6/7/93</u>
				<i>[Signature]</i>	EQS		<u>6/8/93</u>
	DOE <i>6/24/93</i>	X					
Approval of Responsible Manager <i>M.C. Broussard</i>	Date <u>6-1-93</u>	Is Posting Required? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If Yes, by what date? <u>upon receipt</u>	Date Posted			

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PER R.B. HOFFMAN, CLASSIFICATION OFFICE
JUNE 11, 1991

JUN 28 1993

DOCUMENT CHANGE NOTICE (DCN) (continuation sheet)

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DCN Number 93.02
SW

Procedure Number 5-21000-OPS-FO.16 Rev. 2		Title Field Radiological Measurements	
Scope Limitation <u>None</u>			
Item Number	Page	Step or Paragraph	Changes (Use DCN CONTINUATION SHEET for Additional Space)
(3)	9 of 16	Section 6.2.1.5 (New)	<p>Insert after Section 6.2.1.4 (new section described it item #2 of this DCN): 6.2.1.5 Monitoring with a Bicron Fidler (Field Instrument for the Detection of Low-Energy Radiation)</p> <p>The Bicron FIDLER is used in the work area to determine the presence of low-energy radiation sources. The Bicron FIDLER with a Bicron Analyst meter, with a scaler, and a Bicron G-5 scintillation probe is used as described in this subsection to monitor environmental materials, samples, and equipment. However, this method will not distinguish between fixed and removable radiological contamination.</p> <p>Direct surface monitoring with a Bicron FIDLER requires a background reading. This is done by holding the instrument 15 feet from the item to be surveyed and performing a one-minute scaler count. Once background is established, the item is screened by moving the instrument no faster than 2 inches per second within 12 inches of the surface. If counts are detected on the surface, the Bicron FIDLER is held over the area and a one-minute scaler count is taken.</p> <p>Monitoring results greater than 2 times the square root of the background reading, plus the background reading, as indicated by the one-minute scaler reading, should be reported to the Site Safety Officer (SSO) so instruction on how the activity should be quantified can be given. Refer to the Environmental Management Radiological Guidelines (EMRGs) 6.6, Use of the Bicron FIDLER (Field Instrument for the Detection of Low-Energy Radiation), for more information.</p>
<p>Justification (Reason for Change – Provide Numbers To Reference Corresponding Items Above)</p> <p>(See Page 1)</p>			